

GOAL: IMPROVING TEACHER QUALITY

**ACTIVITY: REVISIONS OF THE MASSACHUSETTS TEACHER LICENSING
REGULATIONS AND RELATED TEACHER SUBJECT MATTER TESTS**

SUMMARY: In November 2000, the Massachusetts Board of Education approved a complete revision of its teacher licensing regulations (a project I directed). As part of this revision, the Department (1) defined specific mathematics topics to be studied by prospective high school mathematics teachers, (2) defined specific mathematics topics to be studied by prospective middle school mathematics teachers for a new license for grades 5-8, and (3) defined specific mathematics topics to be studied by prospective elementary teachers, grades 1-6. The revised regulations also strengthened the academic requirements in mathematics and science for all elementary teachers. The subject matter tests for prospective high school mathematics teachers and elementary teachers have been revised to focus on the content knowledge topics spelled out in the revised regulations and in the standards in the newly revised K-12 mathematics curriculum framework. A new test was developed for prospective middle school mathematics teachers. All these tests are now in use.

In January 2003, the Board of Education approved amendments to its teacher licensing regulations (a project I also directed). One amendment created a new license for prospective elementary mathematics teachers (grades 1-6). Another amendment requires all special education teachers (of moderately disabled, severely disabled, deaf and hard of hearing, and visually impaired students) to take the newly revised test of general curriculum knowledge required of elementary teachers, one-fourth of which addresses mathematical knowledge. The amendment also requires prospective special education teachers to take the same academic course work in mathematics and science now required of prospective elementary teachers. Preparation of an appropriate mathematics test for prospective elementary mathematics teachers is now underway.

PURPOSE: The purpose for defining academic topics to be studied for each license (not number of credit hours or specific majors or minors) in the licensing regulations is to strengthen academic requirements for those who teach mathematics at any level and to make sure that prospective teachers know exactly what course work they should take as undergraduates if they wish to be prepared to pass the state's teacher tests. The purpose for creating licenses specific to elementary and middle school mathematics teachers is to enable people with lower levels of mathematical knowledge than high school mathematics teachers but who might be interested in and capable of teaching mathematics to students in grades 1-8 to become qualified teachers at lower grade levels.

ACCOMPLISHMENTS/RESULTS: We have seen the first fruits of this approach this fall: 58 test-takers who had earlier failed the high school mathematics test took the new middle school mathematics test in its 2002 September and November administrations and passed. We now have 58 more middle school mathematics teachers than we would have had, assuming that the 58 might have failed the high school mathematics test a second (or third) time if they had taken it.

PLANS FOR THE NEXT 12 MONTHS: We will seek ways to encourage undergraduates with ability, interest, and some course work in mathematics but who are majoring in another area to become elementary mathematics teachers. We also seek to encourage elementary schools to re-organize into subject-divided periods so that qualified teachers can teach mathematics, science, and history on a full-time basis in grades 4, 5, and 6 (and possibly 3, too). Generalist teachers in self-contained classroom can no longer teach all these subjects well in standards-based contexts.